

Ancient Monuments Laboratory
Report 186/88

HOUSESTEADS FORT, HADRIANS WALL,
NORTHUMBERLAND: INTERIM REPORT.

A Clapham

AML reports are interim reports which make available the results of specialist investigations in advance of full publication. They are not subject to external refereeing and their conclusions may sometimes have to be modified in the light of archaeological information that was not available at the time of the investigation. Readers are therefore asked to consult the author before citing the report in any publication and to consult the final excavation report when available.

Opinions expressed in AML reports are those of the author and are not necessarily those of the Historic Buildings and Monuments Commission for England.

Ancient Monuments Laboratory Report 186/88

HOUSESTEADS FORT, HADRIANS WALL,
NORTHUMBERLAND: INTERIM REPORT.

A Clapham

Summary

A Waterlogged sample H20/10/48 was taken from the 2nd Century A.D. roadway leading to Housesteads fort. The sample was found to contain seeds representing several different habitats (Grassland, Wetland, disturbed ground and Heathland). An arable component was also discovered, comprising of Spelt Wheat (Triticum spelta) glume bases. Several possible modes of arrival for each component are also discussed.

Author's address :-

Institute of Archaeology
University College
University of London
31 - 34 Gordon Square LONDON
WC1H 0PY

HOUSESTEADS FORT, HADRIAN'S WALL, NORTHUMBERLAND: INTERIM REPORT

BY

ALAN J. CLAPHAM.

Housesteads 1984. H20/10/48 H84/10

INTRODUCTION

A sample of waterlogged plant remains was analysed from the Roman fort at Housesteads, Hadrian's Wall, Northumberland. The sample was taken from the context H20/10/48 by the excavator, J. Crow. The context H20/10/48 is located immediately above the early 2nd century roadway leading to the North gate of Housesteads Fort. The road lies outside the fort and is buried below 2.25-2.50 metres of deposits. The context formed part of the dark grey soil layer which is sealed below a thick clay spread and above the tightly packed road surface. Included within the context was a large quantity of well preserved organic material especially wood, leather and bone, which may represent domestic rubbish thrown out from the fort. The layer was damp but not totally waterlogged, the depth of the layer was 35-40 centimetres.

METHODOLOGY

One litre of the waterlogged remains was first subjected to paraffin flotation followed by treatment with Hydrogen peroxide. This was then passed through a series of sieves (4.0mm, 1.0mm and 0.5mm), the larger pieces of plant material being removed by hand. Each fraction was stored separately in 70% ethanol.

Sorting and identification took place under 70% ethanol using a low powered (x6-x50) Wild M8 stereomicroscope. Taxonomy follows that of Clapham, Tutin and Warburg (1962).

RESULTS (TABLE ONE)

A large quantity of plant remains were recovered from the sample H20/10/48 H84/10. The commonest finds of plant taxa other than crops were; small grass caryopses, Sedge (Carex spp.) nutlets, Ling (Calluna vulgaris) fruits and shoots along with seeds of Stinging Nettle (Urtica dioica), Tormentil (Potentilla erecta), Chickweed (Stellaria cf media) and Buttercup (Ranunculus acris/repens/bulbosus). Bracken pinnae (Pteridium aquilinum) were also abundant.

The only crop species found was that of Spelt wheat (Triticum spelta) of which the only finds were of waterlogged glume bases. Mosses were also common in the sample.

Apart from the plant remains, there was a large number of fly puparia present, along with other insect remains such as heads and wing cases.

DISCUSSION

The waterlogged plant remains from Housesteads sample H20/10/48 H84/10 are representative of several different habitats, namely grassland, wetland, disturbed ground, heathland and arable. (see table two.)

Grassland

The grassland component is represented by Buttercup, Pearlwort (Sagina spp.), Fairy Flax (Linum catharticum), Wild Strawberry (cf Fragaria rexa), Parsley Piert (Aphanes arvensis), Dock (Rumex sp.), Yellow Rattle (Rhinanthus cf minor), Self Heal (Prunella vulgaris) and Ribwort Plantain (Plantago lanceolata).

The commonest of the grassland habitat were Buttercup, Self Heal with Parsley Piert and Fairy Flax. The presence of Fairy Flax indicates that some of the grassland was base rich in nature while the presence of Yellow-Rattle suggests a hay-meadow element where the plant thrives as a parasite on grasses.

Wetland

The Wetland Environment is represented by Lesser Spearwort (Ranunculus flammula), Marsh Stitchwort (Stellaria cf palustris), Blinks (Montia fontana), Rushes (Juncus spp.), Spike-Rush (Eleocharis sp.) and Sedges (Carex spp.). The most dominant plants being sedge, Lesser Spearwort, Rushes and Blinks. All the taxa found in this sample tend to be found on damp ground close to or on the banks of watercourses and ponds where the watertable is high. Blinks prefers to grow on a non-calcareous substrate.

Disturbed ground

By far the largest component of the whole assemblage was of those plants that prefer disturbed ground. The taxa found in sample H20/10/48 include; Mustard (Brassica sp.), Wild Radish (Raphanus raphanistrum), Field Pennycress (Thlaspi arvensis), Chickweed, Knotgrass (Polygonum aviculare), Pale Persicaria (Polygonum lapathifolium), Curled Dock (Rumex crispus), Small Nettle (Urtica urens), Stinging Nettle (Urtica dioica), Hemp Nettle (Galeopsis speciosa/tetrahit agg.) and Hairy Woodrush (Luzula pilosa). Of those present Wild Radish, Chickweed, Knotgrass, Pale Persicaria and Small Nettle can be expected to be classified as arable weeds, although they can also be found in other types of disturbed

habitats such as, waysides, farmyards and other places where the soil is constantly disturbed.

Stinging Nettle is usually found growing in soils of high nitrogen and phosphorus content, usually around dung heaps or other areas where waste matter is dumped.

Heath/Moorland

The seeds of Lesser Stitchwort (Stellaria cf graminea), Tormentil (Potentilla erecta), Sheep's Sorrel (Rumex acetosella), the shoots and fruits of Ling (Calluna vulgaris) and Heath (Erica sp.) represent the heathland component of the plant assemblage with Ling and Tormentil being the most dominant. All the taxa found in this category still grow in the area today on the moorland surrounding the site.

Cultivated Plants

The only cereal remains found were of Spelt wheat (Triticum spelta) glume bases along with indeterminate wheat awn fragments, Straw and Culm nodes. These were all uncharred. These cereal remains represent waste products from the processing of the glume wheats. The straw and culm nodes arise as a product of the initial threshing stage while the glumes were probably a product from the pounding of the spikelet forks to release the grain prior to the grain being ground into flour (Hillman, 1981). It is thought that the glume wheats were sold and stored as spikelets and then processed daily as required. The storage as spikelets protects the grain from fungal and insect attack (Hillman, 1981).

Modes of arrival

There are several possible modes of arrival for the various components of the plant assemblage found in H20/10/48 H84/10. These include:-

- a) As soiled bedding, floor coverings, especially the finds of Bracken, Ling, Heath and Straw.
- b) As waste fractions of crop processing e.g. the glume bases and straw, although at Housesteads the glume bases may be the only crop waste direct from the site while the straw was probably brought into the fort from another source.
- c) As a local weedy background component. The sample came from above a roadway, therefore it can be expected that the surrounding area would be very disturbed by constant visitors to the fort and therefore leading to a very disturbed habitat which would be occupied by those species preferring this type of environment.
- d) By the 'welly-boot effect' (Hillman, 1984). This can occur when areas are frequently trampled by both men and stock bringing in seeds from different habitats on feet and clothes etc. and then depositing the seeds onto the sample. This mode of arrival could lead to the confusion of the origin of the plant material preserved in the deposit.

Van der Veen (1982) also found components of grassland, damp ground and heathland along with representatives of disturbed ground/arable habitats from waterlogged samples taken from the primary rampart dated to early second century A.D.

As the context is deposited above the roadway, it can be suggested that at the time of deposition, the road was not in use. Domestic rubbish may well have been dumped on the roadway and left to decompose, as is suggested by the presence of

the fly puparia. This rotting domestic waste, consisted of soiled bedding and discarded wood chips, waste leather and crop processing waste.

On top of the decomposing mass, other plants such as those preferring disturbed habitats could have been growing and therefore contributing their seeds to the plant assemblage. This may be especially true of the Stinging Nettle.

Conclusions

The sample H20/10/48 H84/10 was taken from above a roadway leading to Housesteads Fort. The plant remains found in the sample are representative of several different environments, these being grassland, wetland, disturbed ground and heath land, these environments can still be found around Housesteads Fort today. The sample probably represents domestic rubbish discarded onto the disused 2nd century A.D. roadway. This rubbish was left to rot as shown by the presence of fly puparia. The other components of the plant assemblage either arrived via the 'welly-boot effect' or by plants of the disturbed ground habitats growing on top of the rotting material.

References

- Clapham A.R., Tutin, T.G. and Warbury, E.F. 1962. Flora of the British Isles Cambridge.
- Hillman, G.C. 1981. Reconstructing crop husbandry practices from charred remains of crops. In Mercer, R. ed. Farming practices in British Prehistory Edinburgh: University Press.
- Hillman, G.C. 1984. Interpretation of archaeological plant remains: the application of ethnographic models from Turkey. In: Zeist, W. Van and Casparie, W.A. Plants and Ancient Man Rotterdam: Balkema.
- Van der Veen, M. 1984. Housesteads - Botanical Remains Ancient Monuments Laboratory Report 3746.

<u>Triticum</u> cf <u>spelta</u> glume bases	4
<u>Triticum</u> sp. awn fragments.	1
culm nodes and straw.	24f
<u>RANUNCULACEAE</u>	
<u>Ranunculus acris/repens/bulbosus.</u>	26
<u>Ranunculus flammula.</u>	9 + 1f
<u>CRUCIFERAE</u>	
<u>Brassica</u> sp.	1f
<u>Raphanus raphanistrum.</u>	2 (pod segments)
<u>Thlaspi arvensis.</u>	1
<u>CARYOPHYLLACEAE</u>	
<u>Stellaria</u> cf <u>media.</u>	41
<u>Stellaria</u> cf <u>palustris.</u>	1
<u>Stellaria</u> cf <u>graminea.</u>	1
<u>Sagina</u> sp.	1
<u>PORTULACACEAE</u>	
<u>Montia fontana.</u>	7
<u>LINACEAE</u>	
<u>Linum catharticum.</u>	4
<u>ROSACEAE</u>	
<u>Potentilla erecta.</u>	36 + 3f
cf <u>Fragaria vesca.</u>	1
<u>Aphanes arvensis.</u>	5
<u>POLYGONACEAE</u>	
<u>Polygonum aviculare.</u>	1
<u>Polygonum persicaria.</u>	4
<u>Polygonum lapathifolium.</u>	3
<u>Rumex acetosella.</u>	3
<u>Rumex crispus</u> Values.	3
<u>Rumex</u> sp.	3
<u>URTICACEAE</u>	
<u>Urtica urens.</u>	3
<u>Urtica dioica.</u>	31

TABLE 1. SPECIES LIST AND SCORE SHEET FOR H20/10/48 H84/10.

ERICACEAE

Calluna vulgaris 67
Erica sp. Leaves. 9

SCROPHULARIACEAE

cf Rhinanthus minor 1

LABIATAE

Prunella vulgaris. 10
Galeopsis speciosa/tetrahit agg. 3f

PLANTAGINACEAE

Plantago lanceolata. 1 (charred)

JUNCACEAE

Juncus spp. 10
cf Luzula pilosa. 5

CYPERACEAE

cf Eleocharis sp. 1
Carex sp. Flat. 75
Trigonus. 63

GRAMINEAE

Small Gramineae indeterminate. approx. 100

POLYPODIACEAE

Pteridium aquilinum. Pinnae. 20

MUSCI.

Indeterminate Mosses. Common

MISCELLANEOUS

Fly puparia. 71
Insect remains. 2 (heads) + 1 (wing
case)

TABLE 1. Continued.

WETLAND.

Ranunculus flammula.
Stellaria cf palustris.
Montia fontana.
Juncus spp.
Eleocharis sp.
Carex spp.

Lesser spearwort.
Marsh Stitchwort.
Blinks.
Rush.
Spike-rush.
Sedge.

HEATHLAND.

Stellaria cf graminea.
Potentilla erecta.
Rumex acetosella.
Calluna vulgaris.
Erica sp.

Lesser Stitchwort.
Tormentil.
Sheep's Sorrel.
Ling, Heather.
Heath.

GRASSLAND.

Ranunculus acris/repens/bulbosus.
Sagina sp.
Linum catharticum.
cf Fragaria vesca.
Aphanes arvensis.
cf Rhinanthus minor.
Prunus vulgaris.
Plantago lanceolata.
Small Gramineae.

Buttercup.
Pearlwort.
Fairy Flax.
Wild Strawberry.
Docks.
Yellow-rattle.
Self-Heal.
Ribwort Plantain.
Grasses

DISTURBED GROUND.

Brassica sp.
Raphanus raphanistrum.
Thlaspi arvensis.
Stellaria cf media.
Polygonum aviculare.
Polygonum persicaria.
Polygonum lapathifolium.
Rumex crispus.
Urtica urens.
Urtica dioica.
Galeopsis speciosa/tetrahit agg.
Luzula pilosa.

Mustard.
Wild Radish.
Field Pennycress.
Chickweed.
Knotgrass.
Persicaria.
Pale Persicaria.
Curled Dock.
Small Nettle.
Stinging Nettle.
Hemp-nettle.
Hairy Woodrush.

CROPS.

Triticum cf spelta glume bases.
Triticum sp. awn fragments.
Straw and Culm nodes.

Spelt wheat.

TABLE 2. THE HABITATS REPRESENTED BY THE SEEDS IN H20/10/48 H84/10